What Is Claimed Is:

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1. An image sensing apparatus having a plurality of unit cells, each including a plurality of photoelectric conversion elements and a common circuit shared by said plurality of photoelectric conversion elements, arranged in either one or two dimensions,

wherein said plurality of photoelectric conversion elements are arranged at a predetermined interval.

2. The image sensing apparatus according to claim 1, wherein said plurality of photoelectric conversion elements in each unit cell are arranged side by side in one direction, and said common circuit is arranged at the edge of each plurality of photoelectric conversion elements.

3. The image sensing apparatus according to claim 1, wherein said plurality of photoelectric conversion elements in each unit cell are arranged side by side in one direction, and said common circuit is arranged between adjoining unit cells arranged in a direction perpendicular to the direction of the arrangement of said plurality of photoelectric conversion elements.

4. The image sensing apparatus according to claim 1, wherein said common circuit is arranged at the edge of each plurality of photoelectric conversion elements arranged in a horizontal direction.

5. The image sensing apparatus according to claim 4, wherein said unit cell is configured with a plurality of pixels each including a photoelectric conversion element, and a number of horizontal conductors passing over each pixel is the same.

6. The image sensing apparatus according to claim 4, wherein said unit cell is configured with a plurality of pixels each including a photoelectric conversion element, and contacts between layers of each pixel are arranged so that a number of conductors passing over each unit cell, as well as one of the contacts which is not connected to a conductor passing over the unit cell is connected to a light-shield film of the pixel.

7. The image sensing apparatus according to claim 1, wherein said common circuit is arranged at the edge of each plurality of photoelectric conversion elements arranged in a vertical direction.

8. The image sensing apparatus according to claim 7, wherein said unit cell is configured with a plurality of pixels each including a photoelectric conversion element, and a number of vertical conductors passing over each pixel is the same.

9. The image sensing apparatus according to claim 7, wherein said unit cell is configured with a plurality of pixels each including a photoelectric conversion element, and contacts between layers of each pixel are arranged so that a number of conductors passing over each unit cell, as well as one of the contacts which is not connected to a conductor passing over the unit cell is connected to a light-shield film of the pixel.

10. The image sensing apparatus according to claim 1, further comprising:

noise reading means for reading a noise of said common circuit;

first signal reading means for reading a first signal through said common circuit;

second signal reading means for reading a second signal through said common circuit; and

noise reduction means for reducing the noise from said first and second signals.

11. The image sensing apparatus according to claim 10, wherein said noise reduction means is differential means.

12. The image sensing apparatus according to claim 10, wherein said first signal is read from one of said plurality of photoelectric conversion elements in each unit cell, and said second signal is read from another photoelectric conversion element in the same unit cell.

13. The image sensing apparatus according to claim 10, wherein said first signal is read from one of said plurality of photoelectric conversion elements in each unit cell, and said second signal is read from the photoelectric conversion element and another photoelectric conversion element in the same unit cell.

14. The image sensing apparatus according to claim 1, further comprising:

noise reading means for reading a noise of said common circuit;

signal reading means for reading a plurality of signals through said common circuit; and

noise reduction means for reducing the noise from said plurality of signals.

15. The image sensing apparatus according to claim 14, wherein said noise reduction means is differential means.

16. The image sensing apparatus according to claim 14, wherein said first signal is read from one of said plurality of photoelectric conversion elements in each unit cell, and said second signal is read from other plural photoelectric conversion elements in the same unit cell.

17. The image sensing apparatus according to claim 1, wherein said common circuit is an amplifier for amplifying and outputting a signal from each of said plurality of photoelectric conversion element.

18. The image sensing apparatus according to claim 17, wherein said common circuit further includes transfer means for transferring the signal from each of said plurality of photoelectric conversion element and reset means for resetting said common circuit.

19. The image sensing apparatus according to claim 1, wherein said common circuit is digital signal conversion means for converting a signal from each of

said plurality of photoelectric conversion element into a digital signal.

20. The image sensing apparatus according to claim 1, wherein said common circuit is a signal processing unit.

21. An image sensing apparatus having a plurality of unit cells, each including a plurality of photoelectric conversion elements and a common circuit shared by said plurality of photoelectric conversion elements, arranged in two dimensions,

wherein photoelectric conversion elements, out of said plurality of photoelectric conversion elements, which are covered by a color filter that contributes mostly to forming a luminance signal are arranged in a same interval both in the horizontal and vertical directions by arranging adjoining rows or columns of photoelectric conversion elements shifted from each other.

22. The image sensing apparatus according to claim 21, wherein the adjoining rows or columns of said photoelectric conversion elements, covered by the color filter that contributes mostly to forming a luminance signal, are shifted by 3/2 pitches from each other.

23. The image sensing apparatus according to claim 21, wherein said plurality of photoelectric conversion elements in each unit are arranged on both sides of said common circuit.

24. The image sensing apparatus according claim 23, wherein a color filter covering one of said plurality of photoelectric conversion elements arranged on one side of said common circuit contributes to forming a luminance signal, and a color filter covering another photoelectric conversion element arranged on the other side of said common circuit contributes to forming a color signal.

25. The image sensing apparatus according to claim 21, further comprising signal processing means for forming a luminance signal and a color difference signal on the basis of signals obtained from said plurality of photoelectric conversion elements.

26. The image sensing apparatus according to claim 21, further comprising:

noise reading means for reading a noise of said common circuit;

first signal reading means for reading a first signal through said common circuit;

second signal reading means for reading a second signal through said common circuit; and

noise reduction means for reducing the noise from said first and second signals.

27. The image sensing apparatus according to claim 26, wherein said noise reduction means is differential means.

28. The image sensing apparatus according to claim 26, wherein said first signal is read from one of said plurality of photoelectric conversion elements in each unit cell, and said second signal is read from another photoelectric conversion element in the same unit cell.

29. The image sensing apparatus according to claim 26, wherein said first signal is read from one of said plurality of photoelectric conversion elements in each unit cell, and said second signal is read from the photoelectric conversion element and another photoelectric conversion element in the same unit cell.

30. The image sensing apparatus according to claim 21, further comprising:

noise reading means for reading a noise of said common circuit;

signal reading means for reading a plurality of signals through said common circuit; and

noise reduction means for reducing the noise from said plurality of signals.

31. The image sensing apparatus according to claim 30, wherein said noise reduction means is differential means.

32. The image sensing apparatus according to claim 30, wherein said first signal is read from one of said plurality of photoelectric conversion elements in each unit cell, and said second signal is read from other plural photoelectric conversion elements in the same unit cell.

33. The image sensing apparatus according to claim 21, wherein said common circuit is an amplifier for amplifying and outputting a signal from each of said plurality of photoelectric conversion element.

34. The image sensing apparatus according to claim 33, wherein said common circuit further includes transfer means for transferring the signal from each of said plurality of photoelectric conversion element and reset means for resetting said common circuit.

35. The image sensing apparatus according to claim 21, wherein said common circuit is digital signal conversion means for converting a signal from each of said plurality of photoelectric conversion element into a digital signal.

36. The image sensing apparatus according to claim 21, wherein said common circuit is a signal processing unit.

37. An image sensing apparatus having a plurality of unit cells, each including a plurality of photoelectric conversion elements and a common circuit shared by said plurality of photoelectric conversion elements, arranged in either one or two dimensions, comprising:

adjustment means for adjusting centers of mass of light-receiving areas of said plurality of photoelectric conversion elements provided in a central portion of the image sensing apparatus, so as to be apart at a same spatial interval.

38. The image sensing apparatus according to claim 37, wherein said adjustment means is an optical member.

39. The image sensing apparatus according to claim 38, wherein said optical member is a light-shield unit.

40. The image sensing apparatus according to claim 39, wherein said light-shield unit is arranged between adjoining unit cells.

41. The image sensing apparatus according to claim 39, wherein a plurality of light-shield units are arranged so as to be symmetry with respect to a horizontal or vertical line passing over a center of each unit cell.

42. The image sensing apparatus according to claim 37, wherein apertures of said plurality of photoelectric conversion elements are placed at a fixed position in each pixel.

43. The image sensing apparatus according to claim 38, wherein said optical member is an on-chip lens.

44. The image sensing apparatus according to claim 37, wherein apertures are adjusted so that centers of mass of light-receiving areas of said photoelectric conversion elements (11) in a peripheral area of the image sensing apparatus are at a same interval.

45. The image sensing apparatus according to claim 37, wherein centers of mass of light-receiving areas of said plurality of photoelectric conversion elements matches the respective centers of mass of pixels.

46. The image sensing apparatus according to claim 37, wherein each of said unit cells has a conductor passing over the unit cell in a predetermined direction, and said conductor is a transparent conductor.

47. The image sensing apparatus according to claim 37, wherein each of said unit cells has a conductor passing over the unit cell in a predetermined direction, and said conductor passes through centers of a plurality of pixels each including a photoelectric conversion element.

48. The image sensing apparatus according to claim 37, wherein each of said unit cells has a conductor passing over the unit cell in a predetermined direction, and said conductor is provided over one side portion of each of a plurality of pixels each including a photoelectric conversion element, and said photoelectric conversion element is arranged in the other portion of the pixel.

49. The image sensing apparatus according to claim 48, wherein said common circuit is arranged under the conductor.

50. The image sensing apparatus according to claim 37, wherein each of said unit cells includes conductors, and each of a plurality of pixels each including a photoelectric conversion element has a same number of conductors on each side.

51. The image sensing apparatus according to claim 50, wherein said common circuit is arranged under the conductor.

52. The image sensing apparatus according to claim 37, wherein said common circuit is arranged at a central portion of each unit cell.

53. The image sensing apparatus according to claim 37, further comprising:

noise reading means for reading a noise of said common circuit;

first signal reading means for reading a first signal through said common circuit;

second signal reading means for reading a second signal through said common circuit; and

noise reduction means for reducing the noise from said first and second signals.

54. The image sensing apparatus according to claim 53, wherein said noise reduction means is differential means.

55. The image sensing apparatus according to claim 53, wherein said first signal is read from one of said plurality of photoelectric conversion elements in each unit cell, and said second signal is read from another photoelectric conversion element in the same unit cell.

56. The image sensing apparatus according to claim 53, wherein said first signal is read from one of said plurality of photoelectric conversion elements in each unit cell, and said second signal is read from the photoelectric conversion element and another photoelectric conversion element in the same unit cell.

57. The image sensing apparatus according to claim 37, further comprising:

noise reading means for reading a noise of said common circuit;

signal reading means for reading a plurality of signals through said common circuit; and

noise reduction means for reducing the noise from said plurality of signals.

58. The image sensing apparatus according to claim 57, wherein said noise reduction means is differential means.

59. The image sensing apparatus according to claim 57, wherein said first signal is read from one of said plurality of photoelectric conversion elements in each unit cell, and said second signal is read from other plural photoelectric conversion elements in the same unit cell.

60. The image sensing apparatus according to claim 37, wherein said common circuit is an amplifier for amplifying and outputting a signal from each of said plurality of photoelectric conversion element.

61. The image sensing apparatus according to claim 60, wherein said common circuit further includes transfer means for transferring the signal from each of said plurality of photoelectric conversion element and reset means for resetting said common circuit.

62. The image sensing apparatus according to claim 37, wherein said common circuit is digital signal conversion means for converting a signal from each of said plurality of photoelectric conversion element into a digital signal.

63. The image sensing apparatus according to claim 37, wherein said common circuit is a signal processing unit.

64. An image sensing apparatus having a plurality of unit cells, each including a plurality of photoelectric conversion elements and a common circuit shared by said plurality of photoelectric conversion elements, arranged in either one or two dimensions, comprising:

adjustment means for adjusting centers of mass of light-receiving areas of photoelectric conversion elements selected from said plurality of photoelectric conversion elements, provided in a central portion of the image sensing apparatus, on the basis of a predetermined condition, so as to be apart at a same spatial interval.

65. The image sensing apparatus according to claim 64, wherein at least one of said photoelectric

conversion elements in each unit cell is selected under the predetermined condition.

66. The image sensing apparatus according to claim 64, wherein the predetermined condition is that a photoelectric conversion element is covered by a color filter which contributes mostly to forming a luminance signal.

67. The image sensing apparatus according to claim 64, wherein said adjusting means is a light-shield unit.

68. The image sensing apparatus according to claim 64, further comprising:

noise reading means for reading a noise of said common circuit;

first signal reading means for reading a first signal through said common circuit;

second signal reading means for reading a second signal through said common circuit; and

noise reduction means for reducing the noise from said first and second signals.

69. The image sensing apparatus according to claim 68, wherein said noise reduction means is differential means.

70. The image sensing apparatus according to claim 68, wherein said first signal is read from one of said plurality of photoelectric conversion elements in each unit cell, and said second signal is read from another photoelectric conversion element in the same unit cell.

71. The image sensing apparatus according to claim 68, wherein said first signal is read from one of said plurality of photoelectric conversion elements in each unit cell, and said second signal is read from the photoelectric conversion element and another photoelectric conversion element in the same unit cell.

72. The image sensing apparatus according to claim 64, further comprising:

noise reading means for reading a noise of said common circuit;

signal reading means for reading a plurality of signals through said common circuit; and

noise reduction means for reducing the noise from said plurality of signals.

73. The image sensing apparatus according to claim 72, wherein said noise reduction means is differential means.

74. The image sensing apparatus according to claim 72, wherein said first signal is read from one of said plurality of photoelectric conversion elements in each unit cell, and said second signal is read from other plural photoelectric conversion elements in the same unit cell.

75. The image sensing apparatus according to claim 64, wherein said common circuit is an amplifier for amplifying and outputting a signal from each of said plurality of photoelectric conversion element.

76. The image sensing apparatus according to claim 75, wherein said common circuit further includes transfer means for transferring the signal from each of said plurality of photoelectric conversion element and reset means for resetting said common circuit.

77. The image sensing apparatus according to claim 64, wherein said common circuit is digital signal conversion means for converting a signal from each of said plurality of photoelectric conversion element into a digital signal.

78. The image sensing apparatus according to claim 64, wherein said common circuit is a signal processing unit.

79. An image sensing system having:

an image sensing apparatus having a plurality of unit cells, each including a plurality of photoelectric conversion elements and a common circuit shared by said plurality of photoelectric conversion elements, arranged in either one or two dimensions, wherein said plurality of photoelectric conversion elements are arranged at a predetermined interval:

a lens system for forming an image on the image sensing apparatus; and

a signal processing circuit for processing an output signal from the image sensing apparatus.

80. An image sensing system having:

an image sensing apparatus having a plurality of unit cells, each including a plurality of photoelectric conversion elements and a common circuit shared by said plurality of photoelectric conversion elements, arranged in two dimensions, wherein photoelectric conversion elements, out of said plurality of photoelectric conversion elements, which are covered by a color filter that contributes mostly to forming a luminance signal

are arranged in a same interval both in the horizontal and vertical directions by arranging adjoining rows or columns of photoelectric conversion elements shifted from each other:

a lens system for forming an image on the image sensing apparatus; and

a signal processing circuit for processing an output signal from the image sensing apparatus.

81. An image sensing system having:

an image sensing apparatus having a plurality of unit cells, each including a plurality of photoelectric conversion elements and a common circuit shared by said plurality of photoelectric conversion elements, arranged in either one or two dimensions, comprising adjustment means for adjusting centers of mass of light-receiving areas of said plurality of photoelectric conversion elements provided in a central portion of the image sensing apparatus, so as to be apart at a same spatial interval;

a lens system for forming an image on the image sensing apparatus; and

a signal processing circuit for processing an output signal from the image sensing apparatus.

82. An image sensing system having:

an image sensing apparatus having a plurality of unit cells, each including a plurality of photoelectric conversion elements and a common circuit shared by said plurality of photoelectric conversion elements, arranged in either one or two dimensions, comprising adjustment means for adjusting centers of mass of light-receiving areas of photoelectric conversion elements selected from said plurality of photoelectric conversion elements, provided in a central portion of the image sensing apparatus, on the basis of a predetermined condition, so as to be apart at a same spatial interval:

a lens system for forming an image on the image sensing apparatus; and

a signal processing circuit for processing an output signal from the image sensing apparatus.

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